

Reference

Becher C, Schumacher T, Fleischer B, Ettinger M, Smith T., Ostermeier S.
Department of Orthopedic Surgery, Hannover Medical School

The effects of a dynamic patellar realignment brace on disease determinants for patellofemoral instability in the upright weight-bearing condition

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Products

Patella Pro®

Major Findings

With Patella Pro:

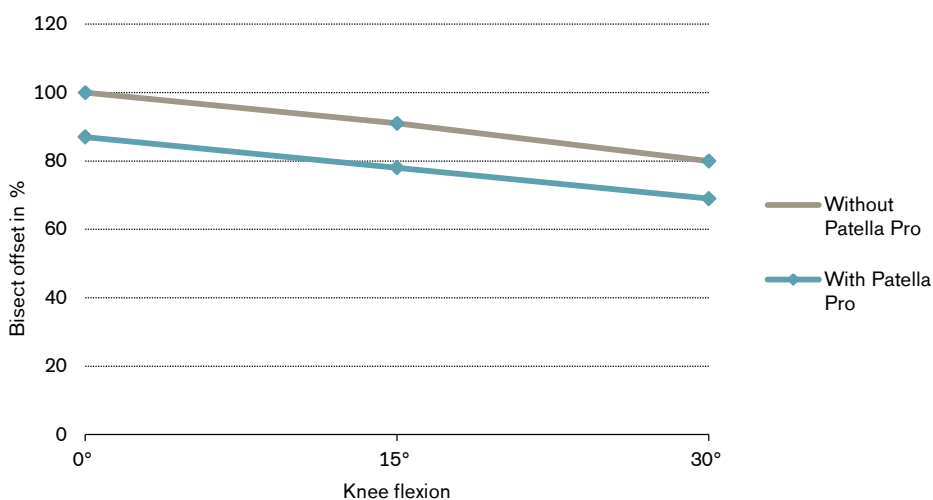
→ **The patella was recentred at 0°, 15° and 30° knee flexion**

Lower position

Medialization (up to 15.6%)

Reduced tilt (up to 5° reduction)

Significant medialization of the patella



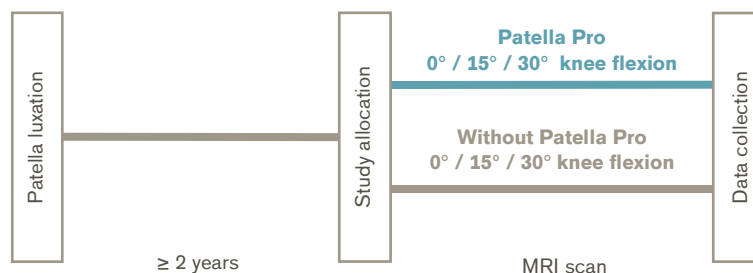
The position of the patella was analysed with MRI.

Population

Subjects: 20 patients with status \geq 2 years after patellar dislocation (12 female, 8 male)
Mean age: 25 yrs (range 17 – 39 yrs)

Study Design

Observational, comparative:



The knee joints were scanned in the MRI while they were weight loaded in a 0°, 15° and 30° flexed position. The horizontal and vertical position of the patella was assessed.

Results

Functions and Activities						Participation
Biomechanics – Static measures	Biomechanics – Gait analysis	X-Ray	EMG	Functional tests	Clinical effects	Satisfaction

Category	Outcomes	Results for Patella Pro	Sig.*
Biomechanics – Static measures	Patella height	The patella was located significantly more distal.	++
	Relative patella lateralisation	The patella showed a significant medialisation.	++
	Patella Tilt	The patella was significantly less tilted.	++
	Distance between the tibial tuberosity and the trochlear groove	The distance between the tibial tuberosity and the trochlear groove was significantly reduced when the knee was flexed at 15° and 30°.	++

* no difference (0), positive trend (+), negative trend (-), significant (++)/(-), not applicable (n.a.)

Conclusion

“From this study, it can be concluded that the dynamic patellar realignment brace, Patella Pro, may be able to improve disease determinants in patients with lateral patellofemoral instability in the upright weight-bearing condition at 0°-30° flexion. If clinical symptoms can be meaningfully reduced and subluxation or dislocation can be prevented warrants further investigation.” (Becher et al. 2015)

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